

Application No.: 10/602,424

Case No.: 51720US020

Remarks

Claims 1-20 are pending. Claims 9-11 have been withdrawn from consideration. Claims 5-6 and 13-20 have been canceled. Claims 1, 8 and withdrawn claim 10 are amended. Claim 21 has been added.

Please cancel claims 5-6 and 13-20 without prejudice to the filing of a related application.

According to the Patent Office, the reinforcing "monomer" in claim 8 should be amended to "comonomer" for the sake of consistency and proper antecedent basis with claim 1 wherefrom it depends. Claim 8 has been amended to use the Patent Office's preferred language.

According to the Patent Office, withdrawn claim 3 employs improper Markush language and should be corrected to "electrically conductive material is selected from the group consisting of nickel, silver, copper, and gold particles." Applicants believe that the Patent Office intended to refer to withdrawn claim 10, as claim 3 is neither withdrawn nor contains the objected to language. If this is not correct, appropriate correction and adequate time to respond are respectfully requested. Withdrawn claim 10 has been amended to incorporate the Patent Office's preferred language.

The amendments to claims 8 and 10 are not intended to, and do not alter the scope of original claims 8 and 10.

Claim 1 has been amended to recite that the core-shell polymer containing screen printable adhesive is substantially free of polyepoxide resin. Support for this amendment can be found at, e.g., original claim 1; page 12, lines 6-29; page 17, lines 26-30; and Examples 25-26.

Support for new claim 21 can be found at, e.g., original claim 1; page 12, lines 6-29; page 17, lines 26-30; and Examples 25-26. Additional support for the optional additives can be found at claims 9-12; page 12, line 30 – page 15, line 20.

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§ 102 and § 103 Rejections

Claims 1-4, 7 and 8 stand rejected under 35 USC § 102(b) as purportedly being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as purportedly obvious over Japanese Patent No. 3-220217.

According to the Patent Office, Japanese Patent No. 3-220217 (JP '217) shows a composition comprising a blend of 2-ethylhexyl acrylate with methyl methacrylate, a butadiene-methyl methacrylate-styrene graft copolymer (Chemical abstract, page 2, lines 4-5 and Chemical abstracts registry No. 17080-02-2), and additives. (Office Action mailed April 22, 2004; ¶ 3, emphasis added.) The Patent Office asserts that the prior art composition, used as a coating, would inherently function as the claimed screen-printable adhesive based on the equivalent 2-ethylhexyl acrylate monomer and butadiene-methacrylate-styrene graft copolymer of the reference and claims. (Id., ¶ 4.)

As acknowledged by the Patent Office, JP '217 describes graft copolymers of methyl methacrylate-butadiene-styrene. In contrast, the present invention requires the presence of core-shell polymers. Specifically, the present invention provides screen printable adhesive compositions capable of being applied to a substrate at room temperature. In one embodiment, the screen printable adhesive comprises: (a) 25 to 100 parts by weight of at least one alkyl acrylate monomer; (b) 0 to 75 parts by weight of at least one reinforcing comonomer; and (c) an effective amount of a core-shell polymer to provide a screen-printable composition; wherein said composition and components are substantially solvent free. (See, e.g., claim 1, emphasis added.)

As described in the specification, "core-shell" polymers are polymeric particles which have elastomeric or rubbery cores that are substantially surrounded by a shell material that is typically a thermoplastic polymer. The cores are formed from polymerized diene or acrylic rubbers while the shell materials are usually polyacrylate or polymethacrylate polymers. (Page 12, lines 8-12.) The core-shell polymers are crosslinked polymeric particles that are swellable in the acrylate monomer. (Page 12, lines 6-8.) Generally, the core-shell particles are added to the acrylate monomers in an amount to provide a viscosity and yield stress suitable for screen printing. (Page 12, lines 16-18.)

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Applicants respectfully submit that core-shell polymers are patentably distinct from graft copolymers. For at least these reasons, the present invention is novel over JP '217.

In addition, Applicants respectfully submit that the Patent Office has failed to show JP '217 describes, teaches, or suggests replacing the graft copolymers of JP '217 with the core-shell polymers of the present invention. Thus, for at least these reasons, the present invention is unobvious in light of JP '217.

For at least these reasons, the rejection of claim 1 under 35 USC § 102(b) as purportedly being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as purportedly obvious over Japanese Patent No. 3-220217 is unwarranted and should be withdrawn. Claims 2-4, 7 and 8 each depends from claim 1 and adds patentable features thereto. Claim 1 is patentable over JP '217 for at least the reasons stated above; thus, claims 2-4, 7 and 8 are likewise patentable.

In summary, the rejection of claims 1-4, 7 and 8 under 35 USC § 102(b) as purportedly being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as purportedly obvious over Japanese Patent No. 3-220217 is unwarranted and should be withdrawn.

§ 103 Rejections

Claim 12 stands rejected under 35 USC § 103(a) as being unpatentable over Japanese Patent No. 3-220217 as applied to claims 1-4 and 7 hereinabove, and further in view of PCT Publication No. WO 95/13328.

The Patent Office acknowledges that the Japanese patent abstracts do not name the claimed thixotropic agent. The Patent Office relies on the PCT publication for its purported disclosure of a pressure sensitive adhesive derived from an alkyl acrylate monomer such as ethylhexyl acrylate and a thermosetting resin wherein "the monomers may be mixed with a thixotropic agent such as fumed hydrophilic silica to achieve a coatable thickness." The Patent Office asserts it would have been obvious to mix the monomer blend of the Japanese patent with the thixotropic agent of the PCT publication in order to achieve a coatable thickness. (Office Action mailed April 22, 2004; ¶¶ 5 and 6.)

While not conceding that proper motivation exists to combine the references, Applicants respectfully submit that the proposed combination fails to describe all elements of the claimed

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invention. For example, the Patent Office has failed to show how the combination of JP '217 and the PCT publication describes, teaches, or suggests a screen printable adhesive comprising 25 to 100 parts by weight of at least one alkyl acrylate monomer; an effective amount of a core-shell polymer to provide a screen-printable composition; and a thixotropic agent.

For at least these reasons, the rejection of claim 12 under 35 USC § 103(a) as being unpatentable over Japanese Patent No. 3-220217 as applied to claims 1-4 and 7 hereinabove, and further in view of PCT Publication No. WO 95/13328 is unwarranted and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 1-4, 7, 8, 12, and 21 at an early date is solicited.

Respectfully submitted,

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